

## MEMORANDUM

**TO:** Kinsey O'Shea, Development Administrator

**FROM:** Randy Formica, Director, Engineering and GIS Department  
Joshua Middleton, Town Engineer

**DATE:** June 28, 2019

**TITLE:** RZN 19-0001-The Standard-Traffic Impacts of Proposed Development

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### Background-

Town Staff prepared a revised traffic impact memo on June 12, 2019. The memo states all Staff's concerns have been met and Staff is in agreement with the study except for one remaining item. The item remaining is the fact that left turn lanes are warranted at the intersection of North Main Street and Montgomery Street and at the site access location along North Main Street, and that the applicant is not proposing to construct the left turn lanes. The left turn lanes are warranted to mitigate traffic operation and safety impacts. Town Staff prepared an exhibit detailing how the left turn lanes could be incorporated into the project. The turn lanes would require that the existing western curb line and sidewalk along North Main Street be reconstructed to provide adequate area for the sidewalk, left turn lane and keep the existing four travel lanes. This construction would require either a dedication of approximately 6 feet of additional right of way or sidewalk/drainage easements from the applicant in lieu of dedicating the additional right of way.

### Discussion-

Town Staff continues to recommend the construction of the left turn lanes and possible application of a pedestrian refuge island for the following reasons:

1. Town Code Section 5-312 requires that turn lanes be provided on all adjacent street where warranted by the minimum standards of the VDOT – Access Management Design Standards.
2. Without a dedicated lane for the left turning movement, vehicles would be required to stop and queue within the through lane. Stopped and queued vehicles, within the 35 MPH through lane, greatly increases the potential for rear-end collisions. The Federal Highway Administration (FHA) suggests that a dedicated left turn lane reduces the probability of a rear-end collisions by 60 to 88 percent. The construction of the left turn lanes will mitigate the safety impacts by removing and providing queuing storage for left turning vehicles entering Montgomery Street and the site access.
3. The construction of the left turn lanes will reduce the chance for head-on and angle crashes from both the southbound movement and crossing intersection traffic. The Federal Highway Administration (FHA) suggests that a dedicated left turn lane reduces the probability of a crash by 18 to 77 percent (50 percent average).

4. The construction of the left turn lanes will lessen the chance of accidents due to traffic weaving between the through lanes to avoid the left turning vehicles.
5. The construction of the left turn lanes will help mitigate the proposed development traffic impacts, maintaining the current level of operations along the road network.
6. The construction of the left turn lanes provides the potential to incorporate a pedestrian refuge island for a crosswalk application at numerous locations. A pedestrian refuge island would greatly improve the safety of the potential crossing as pedestrians would be able to cross two (2) lanes of traffic, at a time, as opposed to four (4).

### **Conclusions-**

Staff recommends that the left turn lanes be constructed to mitigate the safety and operational vehicular impacts of the proposed development and potentially provide additional pedestrian safety applications as outlined above.